

Remarks

By the foregoing amendments, claim 1 is amended and claim 16 has been canceled. No new matter is added. Support for the amendment to claim 1 can be found throughout the specification, and specifically, for example, on page 4, lines 2-4, on page 11, lines 4-13, and on page 35, lines 8-12.

Reconsideration and allowance of the application are respectfully requested.

Response to Claim Rejections Under 35 U.S.C. § 103(a)

Applicants once again note the following rejections set forth in the Final Office Action mailed May 19, 2009, under 35 U.S.C. § 103(a):

- claims 1-8, 10, 14, 16, and 19-21 as allegedly being unpatentable over Carrison et al. (U.S. Published Application No. 2005/0038517, hereinafter "Carrison") in view of Kim et al. (U.S. Patent No. 5,645,596, hereinafter "Kim") and further in view of Tofighi et al. (U.S. Published Application No. 2003/0120351, hereinafter "Tofighi");

- claims 11-13 as allegedly being unpatentable over Carrison in view of Kim and further in view of Tofighi as applied to claim 1, and further in view of Shimp (U.S. Published Application No. 2004/0052829).

Applicants note that claims 11-13 were canceled in the response to the Office Action of May 16, 2009, filed September 16, 2009. Therefore, the rejection of claims 11-13 are rendered moot. Applicants also note that claim 1 is amended to incorporate the elements of claim 16, and claim 16 is canceled.

With respect to the 35 U.S.C. § 103(a) rejections, Applicants submit that Carrison, Kim, Tofighi, and Shimp do not teach or suggest the subject matter of claims 1-8, 10, 14, and 19-21.

In particular, Applicants submit that Carrison, Kim, Tofighi, and Shimp, alone or in combination, fail to teach or suggest, at least, "[a] bone replacement material to be used by being packed into a bone defective part, wherein the bone replacement material consists essentially of a calcium phosphate based compound and is formed into a pellet and satisfies both of the following conditions (I) and (II):

(I) porosity is equal to or less than 75%; and

(II) collapsing strength is equal to or more than 15Mpa, and

wherein the pellet has a roughly polyhedral shape and,

wherein the pellet is defined by a plurality of surfaces including a pair of opposite, non-parallel surfaces, one of the opposite, non-parallel surfaces being inclined at a predetermined angle with respect to the other of the opposite, non-parallel surfaces, and

wherein the bone replacement material is in a state such that a number of pellets of the bone replacement material are introduced into a cavity of the bone defective part and are aggregated therein, and

wherein each pellet of the roughly polyhedral shape is defined by a plurality of edges having different lengths, in which the length of the longest edge is in the range of 5 to 10 mm and the length of the shortest edge is in the range of 2 to 5 mm, wherein the volume of each pellet of the bone replacement material is in the range of 13 to 239 mm³,

wherein the bone replacement materials is adapted to be packed into a cavity of the bone defective part using a cylindrical member having a hollow passage,

wherein when a plurality of pellets of the bone replacement material are introduced and packed into the cavity in the bone defective part using the cylindrical member, each pellet of the bone replacement material is inserted into the hollow passage of the cylindrical member such

that the inclined surface of the pellet faces the inclined surface of the adjacent pellet, whereby each pellet of the bone replacement material is pushed out in various directions from the hollow passage of the cylindrical member, and

wherein the plurality of pellets are configured to be pushed into the cavity in the bone defective part using the cylindrical member after being placed into the hollow passage of the cylindrical member.”

Applicants note that the present invention is defined by a plurality of surfaces including a pair of opposite, non-parallel surfaces where one of the opposite, non-parallel surfaces is inclined at a predetermined angle with respect to the other opposite, non-parallel surfaces. Therefore, when a plurality of pellets of the bone replacement material are successively introduced into the cavity in the bone defective part, the introduced pellets of the bone replacement material are dispersed into various directions, thereby making it possible to fill the cavity with the pellets of the bone replacement material, uniformly. Further, since the bone replacement material that has been introduced into the cavity does not remain near the opening of the instrument, a sufficient amount of the pellet-type bone replacement material can be packed into the cavity. Furthermore, the uniform packing of the pellets of the bone replacement material prevents clogging of the hollow passage of the instrument with the bone replacement material; thereby the packing operation can be carried out smoothly and reliably.

Applicants further note that Carrison, Kim, Tofighi, and Shimp fail to disclose how the bone replacement material is packed into the cavity of the bone defective part using the cylindrical member as recited in the claimed invention. In particular, none of the cited documents discloses that each pellet of the bone replacement material is pushed out in various directions from the hollow passage of the cylindrical member.

In this regard, Applicants note that the Action admits that Carrison does not disclose that the implants are inserted into the hollow passage of a cylindrical member such that the inclined surface of a pellet faces the inclined surface of an adjacent pellet (see Final Office Action mailed May 19, 2009, page 4, lines 10-13). Despite this fact, the Action contends that due to their shape, the implants of Carrison, shown in Fig. 3, are capable of such use. Applicants disagree with this assertion.

Applicants note that the pellets (wedges 102) of Carrison are introduced into the bone structure so as to form a wedge stack 134 (see Figures 5, 8, and 17), wherein each of the wedges 102 (tapered wedges 102 (1)) is arranged in the same direction and built up in an orderly manner. This wedge organization of Carrison differs from the pellet formation of the present invention, where each pellet of the bone replacement material is pushed out in various directions from the hollow passage of the cylindrical member. Applicants submit that the teachings of Carrison, which requires arranging wedges in the same direction and in an orderly manner, teach away from the present invention. The claims of the present invention recite that the inclined surface of the pellet faces the inclined surface of the adjacent pellet, whereby each pellet of the bone replacement material is pushed out in various directions from the hollow passage of the cylindrical member.

In view of these points, Applicants respectfully submit that there is no reason to combine Carrison, Kim, Tofighi, and Shimp, as suggested by the Office, and that a *prima facie* case of obviousness is not established.

In view of the foregoing, Applicants respectfully request the withdrawal of the obviousness rejection.

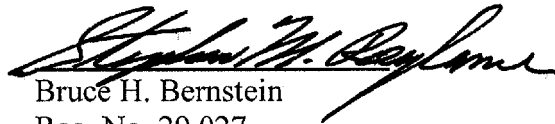
CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
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